

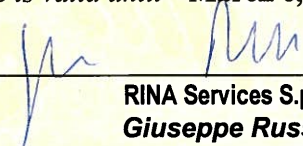


TYPE APPROVAL CERTIFICATE
No. MAC035117XG/006

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Metallic Expansion joints
<i>Type</i>	AN / AF, AM / AP, APX, RM, WN
<i>Applicant</i>	HKS GMBH SCHONENFAHRERSTR 1 18057 Rostock GERMANY
<i>Manufacturer</i>	HKS GMBH
<i>Place of manufacture</i>	SCHONENFAHRERSTR 1 18057 Rostock GERMANY
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules

Issued in **HAMBURG** on **March 7, 2017**. This Certificate is valid until **March 6, 2022**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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No. MAC035117XG/006

Enclosure - Page 1 of 1

AN / AF, AM / AP, APX, RM, WN

Reference documents

- Drawings Approved HMMC-8442, HMMC-8542, HMMC-8525, HMMC-8526 with letter HMMC/2017/00136/CRLVA

Components/Materials

Stainless Steel (1.4404/316L; 1.4541/321; 1.4571/316Ti) multiple layer expansion joints with or without inner sleeve.
Flanges (1.4404/316L; 1.4541/321; 1.4571/316Ti; S235JR)

Design Conditions

Design Temperature: -55°C up to +550°C

Design Pressure: PN 2,5, PN 16, PN40

Design Cycle: 1000

Nominal Diameter: DN 25 up to DN 1200

Fields of application

The metallic expansion joints of type AN, AM, AP, WN and RM are type approved for application in piping system of pipe class I, II and III.

Alternative Manufacturer

HKS-CZ s.r.o.
Meldkojedska 1994/7
41201 Litomerice
Czech Republic

Acceptance conditions

- The installation on board is to be made in accordance with the Manufacturer's instructions and provisions stated in Part C Chapter 1 Section 10 par. 6 of RINA Rules.
- The flanges shall be suitable for the actual design pressure and temperature of on board system
- Expansion Joints are to be marked with type designation manufacturer's name and maximum working pressure.

HAMBURG November 8, 2017

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